

Claims:

1. A communication system, comprising:
 - a home network having a plurality of associated link-layer addresses, each of said link-layer addresses designating a link-layer connection between one of a plurality of mobile nodes to said home network;
 - a foreign network having a plurality of associated link-layer addresses, each of said link-layer addresses designating a link-layer connection between one of a plurality of mobile nodes to said foreign network;
 - an information packet transmitted on one of said networks, said information packet including a generalized link-layer address extension that has a type data field, a length data field, a sub-type data field, and a link-layer address data field.
2. The communication system of Claim 1 wherein an assigned link-layer address for one of the mobile nodes changes as that mobile node moves to another network.
3. The communication system of Claim 1 wherein the information packet is transmitted by one of said networks to inform the mobile node of its assigned link-layer address on that network.

4. The communication system of Claim 1 wherein the information packet is transmitted by one of the mobile nodes to inform one of said networks of its assigned link-layer address.

5. The communication system of Claim 1 wherein the information packet informs a correspondence node of an assigned link-layer address.

6. The communication system of Claim 1 wherein a link-layer address is used to route information packets to one of said mobile nodes.

7. The communication system of Claim 1 wherein the link-layer sub-type includes a transmission protocol designation.

8. The communication system of Claim 1 wherein the link-layer sub-type includes a system type designation.

9. A method of communicating a physical connectivity on a first communication network comprising the steps of:

connecting a mobile node to said first network through said physical connectivity and a link-layer address; and

transmitting a first information packet on said first network, said first information packet having a generalized extension containing said link-layer address and a type data field designation.

10. The method of communicating a physical connectivity on a first communication network of Claim 9 wherein the link-layer address is used to route a second information packet to the mobile node.

11. The method of communicating a physical connectivity on a first communication network of Claim 9 wherein the mobile node receives the first information packet.

12. The method of communicating a physical connectivity on a first communication network of Claim 9 wherein the mobile node transmits the first information packet.

13. The method of communicating a physical connectivity on a first communication network of Claim 9 further comprising the steps of:

providing a second communication network linked to the first communication network; and

receiving the first information packet at said second communication network to inform the second network about the physical connectivity of said mobile node.

14. The method of communicating a physical connectivity on a first communication network of Claim 9 further comprising the steps of:

providing a correspondence node with a communication link to the mobile node; and

receiving the first information packet at said correspondence node.

15. The method of communicating a physical connectivity on a first communication network of Claim 9 further comprising the steps of:

providing a router on a communication network; and

receiving the first information packet at said router.

16. The method of communicating a physical connectivity on a first communication system of Claim 9 wherein the first information packet is processed to update a data table.

17. An information packet transmission on a communication network having connectivity to a mobile node, comprising:

a generalized link-layer address extension that includes a type data field, a length data field, and a link-layer address data field, wherein said link-layer address data field provides information on the physical connectivity of said mobile node to the communication network.

18. The information packet for transmission on a communication network having connectivity to a mobile node of Claim 17 wherein the link-layer address is used by the communication network to route information packets to the mobile node.

19. The information packet for transmission on a communication network having connectivity to a mobile node of Claim 18 wherein the mobile node includes a correspondence node.

20. The information packet for transmission on a communication network having connectivity to a mobile node of Claim 17 wherein a data table is updated with said link-layer address.